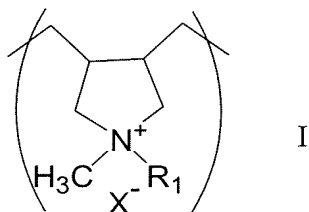


1. (Currently amended) Water soluble branched block copolymers that consist essentially of ~~comprise~~ polymeric backbone chains of quaternary ammonium units of general formula I

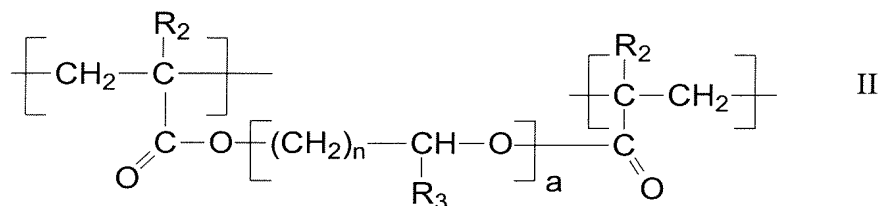


with

$R_1 = \text{H, alkyl (C}_1\text{-C}_8\text{)-}$

X^- = a counterion,

mutually linked together by poly(alkylene glycol) blocks, which consist essentially of ~~comprise~~ units of general formula II



with

$R_2 = \text{H, methyl,}$

$R_3 = \text{H, methyl, ethyl,}$

$n = 1$ through 3 , and

$a = 6$ through 100 ,

replacing individual units of general formula I in said backbone chains, and the proportion by mass of the units of general formula II is between 0.01 and 20 % by weight based on the total block copolymer.

2. (Canceled)

3. (Previously presented) A block copolymer in accordance with claim 1 wherein the intrinsic viscosity of the block copolymer is between 25 and 600 ml/g when measured in 1 N sodium chloride solution at 30 °C.

4. (Previously presented) A block copolymer in accordance with claim 3, wherein the intrinsic viscosity of the block copolymer is between 400 and 600 ml/g when measured in 1 N sodium chloride solution at 30 °C.

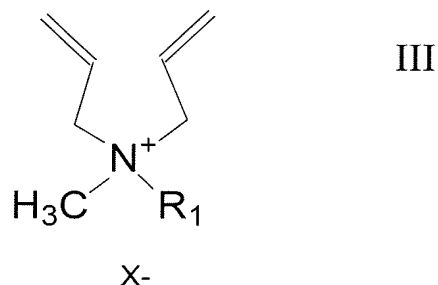
5. (Previously presented) A block copolymer in accordance with claim 1 wherein the Huggins constant is in the range between 0.3 and 0.5.

6. (Previously presented) A block copolymer in accordance with claim 1 wherein the polymeric backbone chain is derived, in the form of a unit of general formula I, from cyclic quaternary ammonium chlorides.

7. (Previously presented) A block copolymer in accordance with claim 1 wherein the poly(alkylene glycol) blocks are derived from compounds from the group of bis-acrylate esters or bis-methacrylate esters of poly(ethylene glycols), poly(propylene glycols), poly(butylene glycols), and/or polytetrahydrofurans.

8. (Previously presented) A block copolymer in accordance with Claim 1 wherein the counterions X^- are selected from the group comprising chloride and methosulfate.

9. (Currently amended) A process for the preparation of water soluble branched block copolymers consisting essentially of ~~comprising~~ the radical polymerization of a quaternary diallylammonium compound of general formula III,

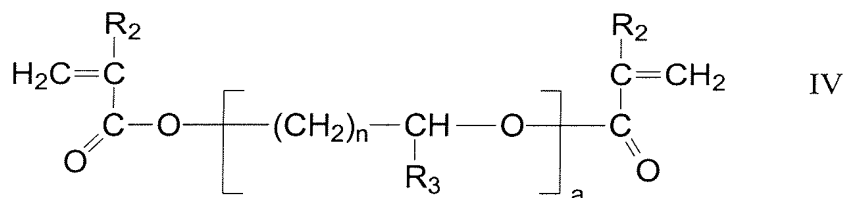


with

$R_1 = \text{H, alkyl (C}_1\text{-C}_8\text{)}$

$X^- = \text{a counterion,}$

and bis-acrylate esters or bis-methacrylate esters of poly(alkylene glycols) of general formula IV,



with

$R_2 = \text{H, methyl,}$

$R_3 = \text{H, methyl, ethyl,}$

n = 1 through 3, and

a = 6 through 100,

the proportion by mass of the compound of general formula IV amounting to between 0.01 and 20 % by weight based on the two starting compounds.

10. (Previously presented) A process in accordance with claim 9, wherein diallyldimethylammonium chloride is used as the diallylammonium compound.

11. (Previously presented) A process in accordance with claim 9 wherein compounds from the group of bis-acrylate esters or bis-methacrylate esters of poly(ethylene glycols), poly(propylene glycols), poly(butylene glycols), and/or polytetrahydrofurans are used as the poly(alkylene glycol).

12. (Previously presented) A process in accordance with claim 9 wherein, as the initiator, use is made of a water soluble azo compound, or a redox system comprising peroxodisulfates and an amine.

13. (Previously presented) A process in accordance with claim 12, wherein, as the initiator, use is made of a redox system comprising peroxodisulfates and an alkoxylated amine surfactant.

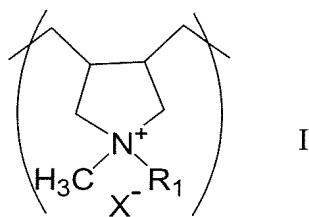
14. (Previously presented) A process in accordance with claim 9 wherein the poly(alkylene glycol) is added during polymerization of the quaternary diallylammonium compound within the 0 to 80 % range of extents of reaction either in the form of one shot, or in portions, or continuously.

15. (Previously presented) A process in accordance with claim 9 wherein the process takes place in aqueous solution.

16. (Previously presented) A process in accordance with claim 9 wherein the process takes place using an inverse emulsion procedure.

17-21. (Canceled)

22. (Currently amended) A method for at least one of the manufacture of paper, the treatment of waste water, and the removal of water from sludge comprising adding to an aqueous system from which suspended solids have to be separated water soluble branched block copolymers that consist essentially of ~~comprise~~ polymeric backbone chains of quaternary ammonium units of general formula I

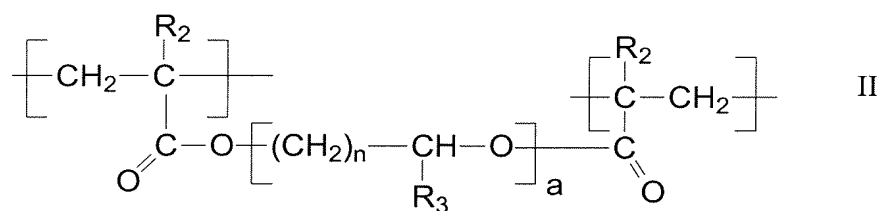


with

$R_1 = \text{H, alkyl (C}_1\text{-C}_8\text{)}$

X^- = a counterion,

mutually linked together by poly(alkylene glycol) blocks, which consist essentially of
comprise units of general formula II



with

$R_2 = \text{H, methyl,}$

$R_3 = \text{H, methyl, ethyl,}$

$n = 1$ through 3, and

$a = 6$ through 100,

replacing individual units of general formula I in said backbone chains, and the proportion by mass of the units of general formula II is between 0.01 and 20 % by weight based on the total block copolymer.